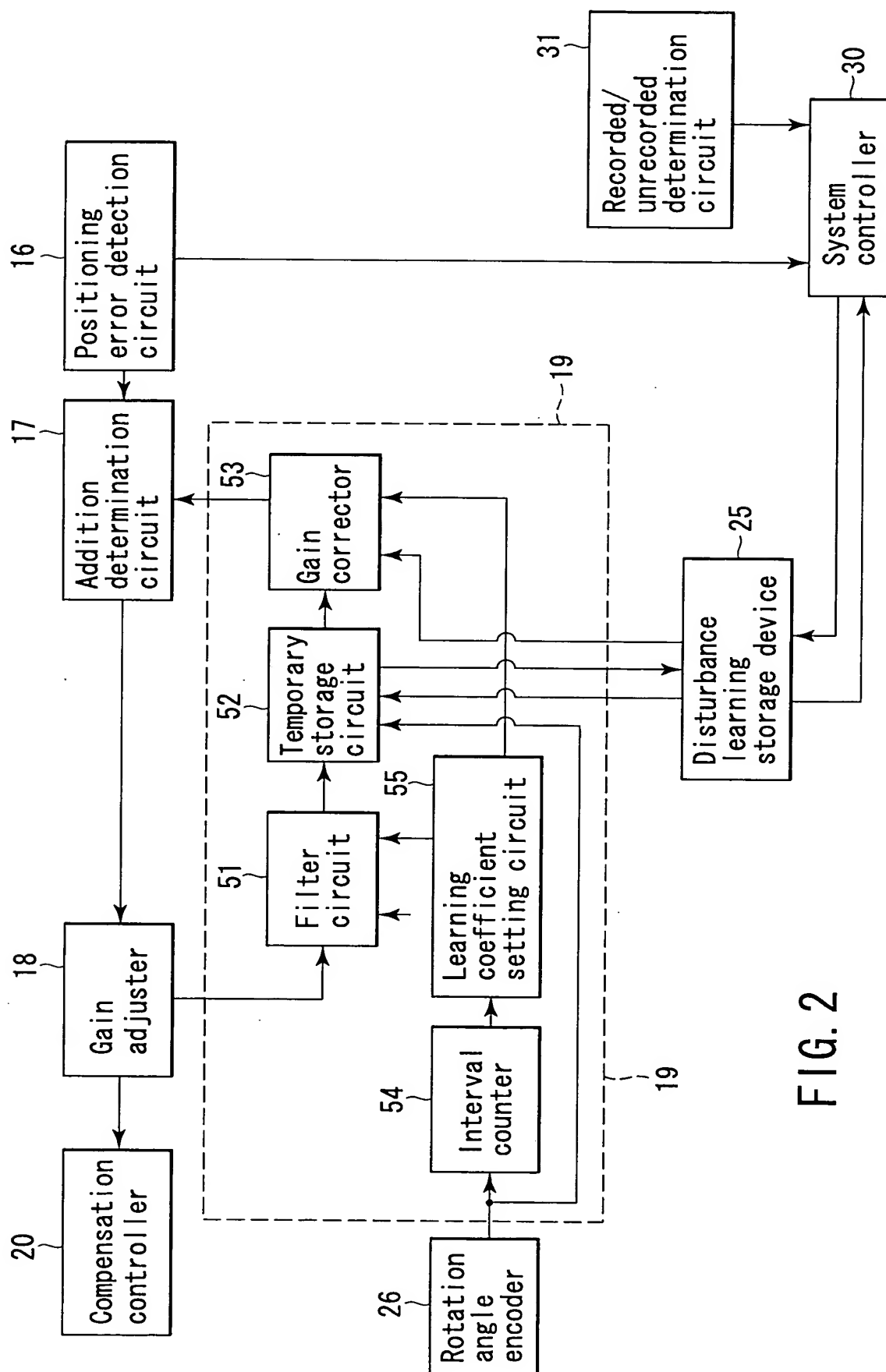
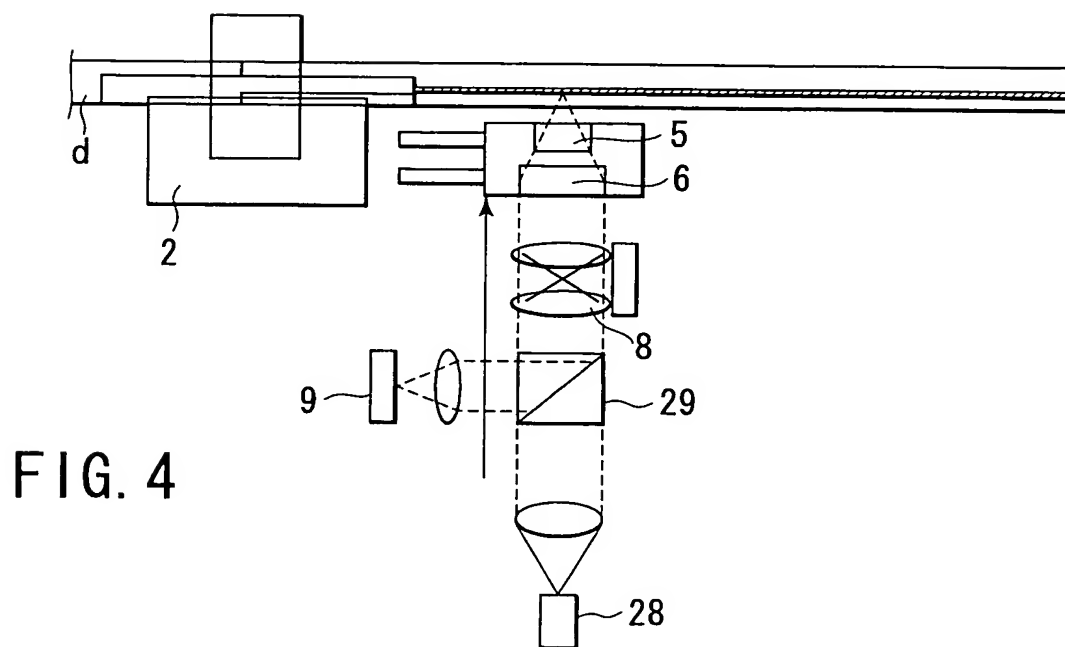
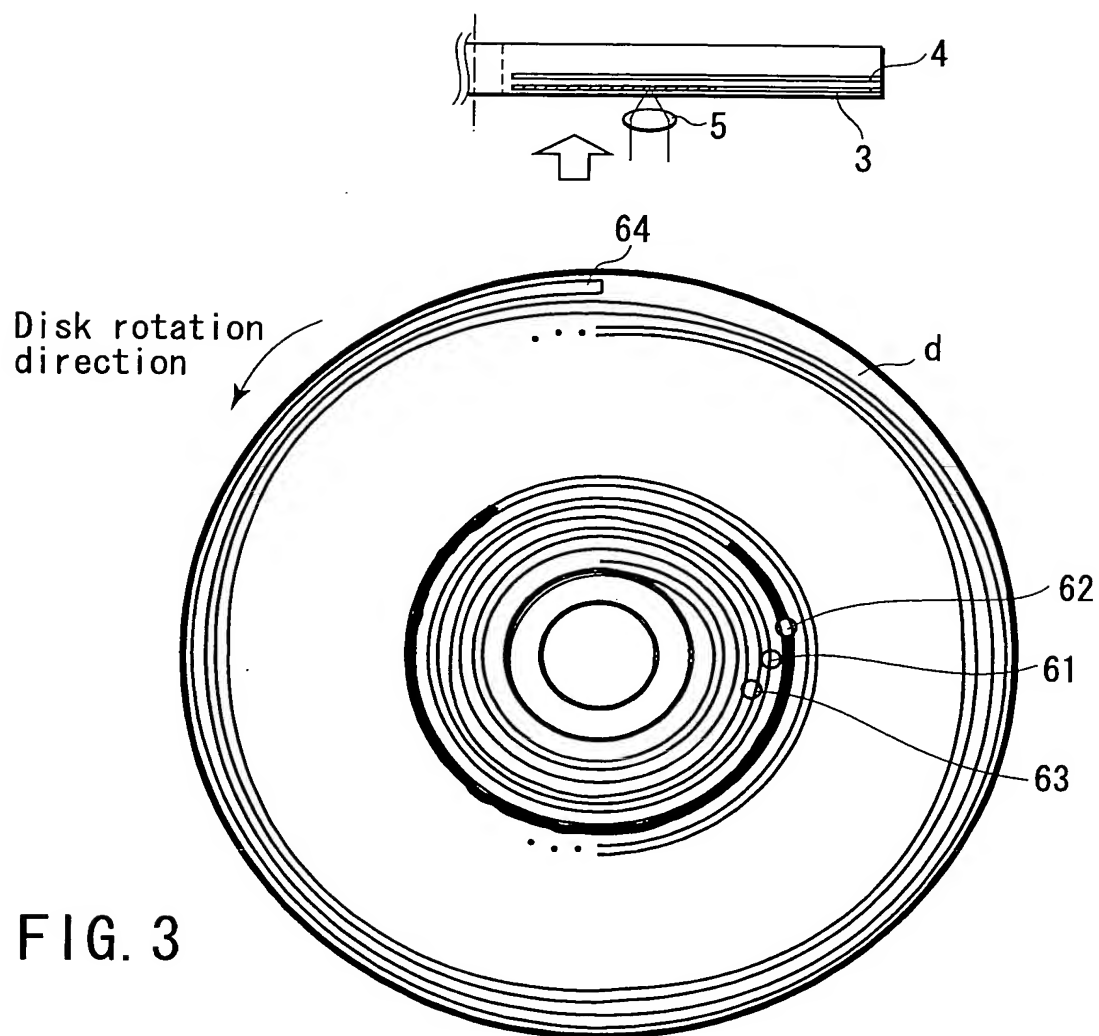


FIG. 1





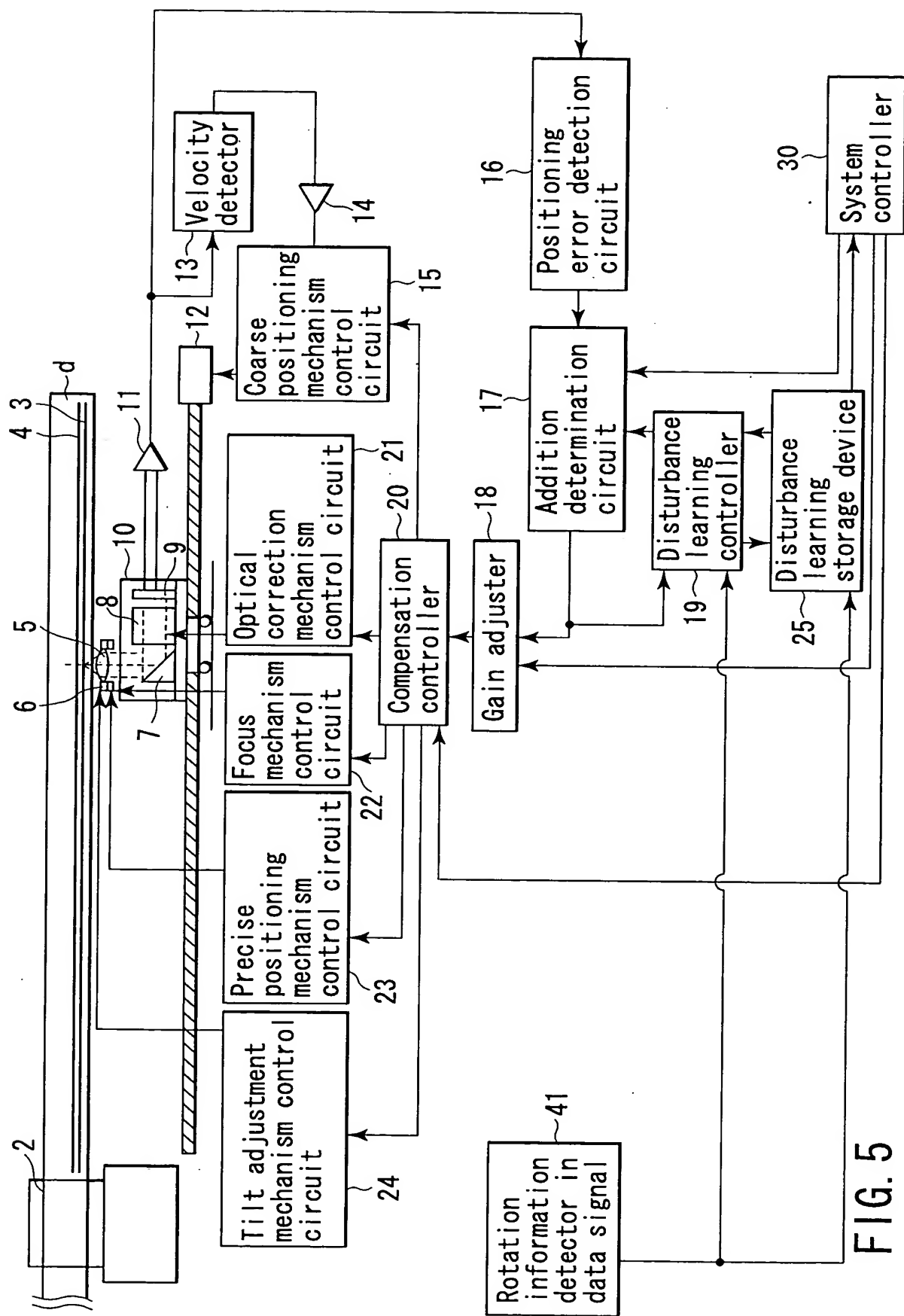


FIG. 5

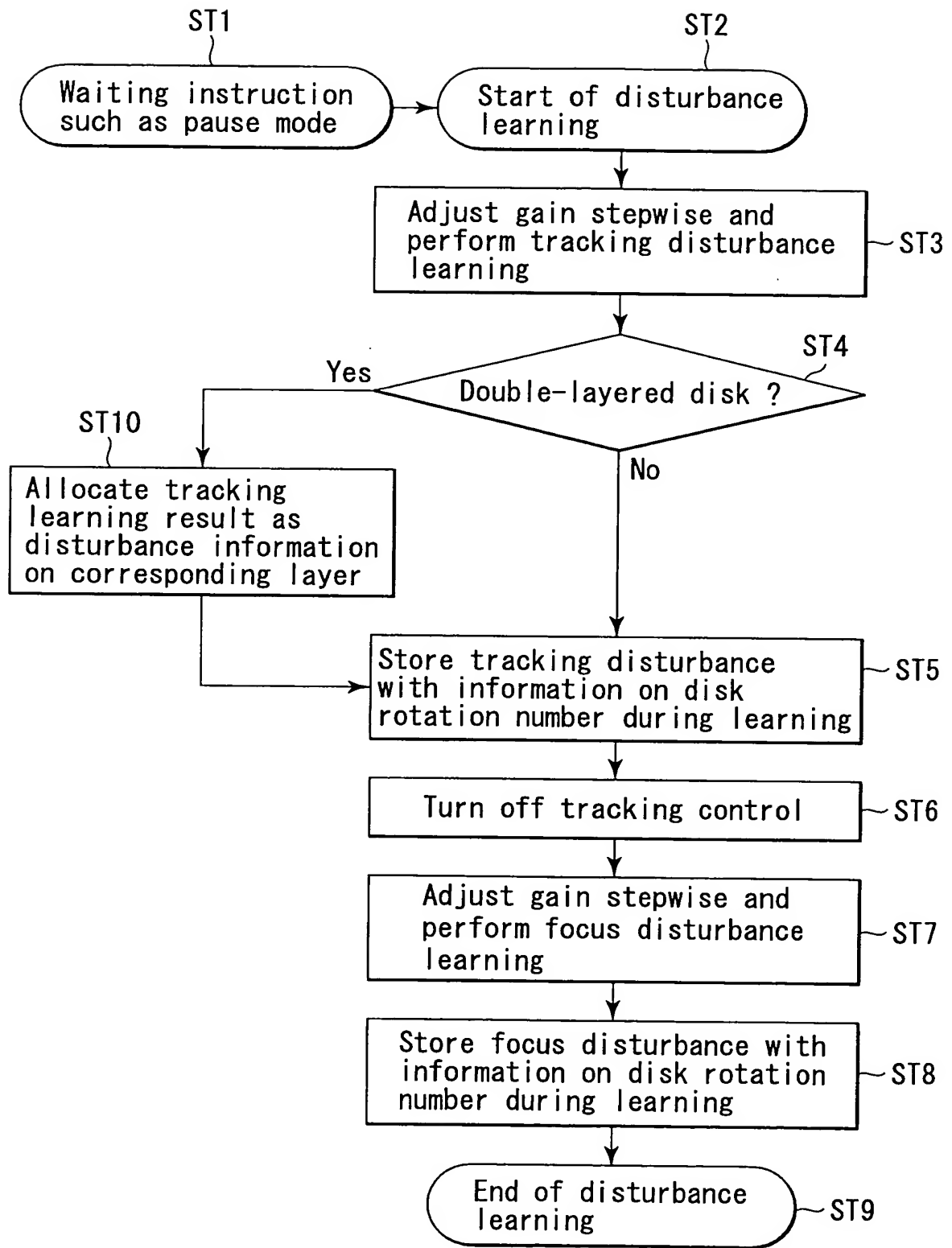


FIG. 6

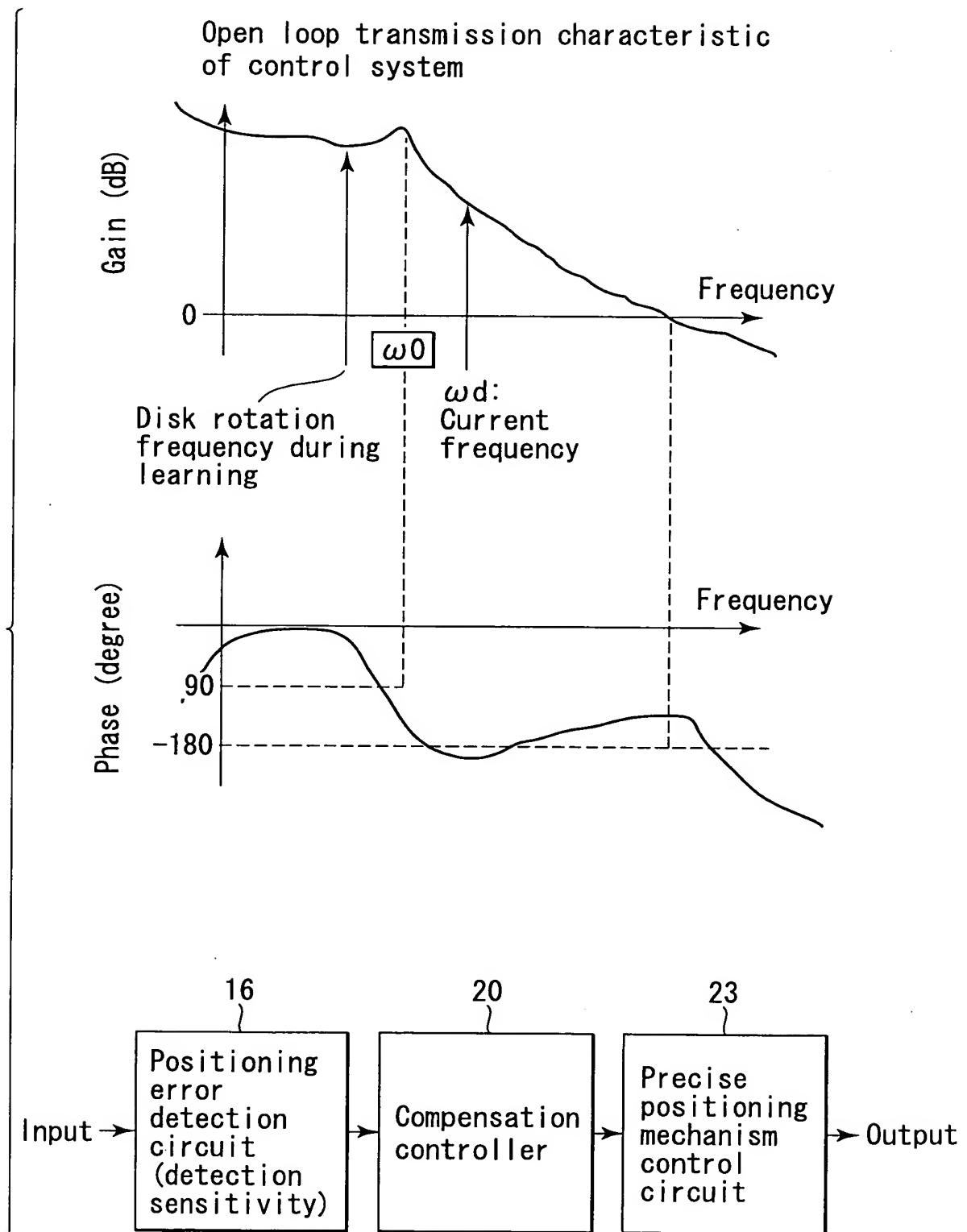


FIG. 7

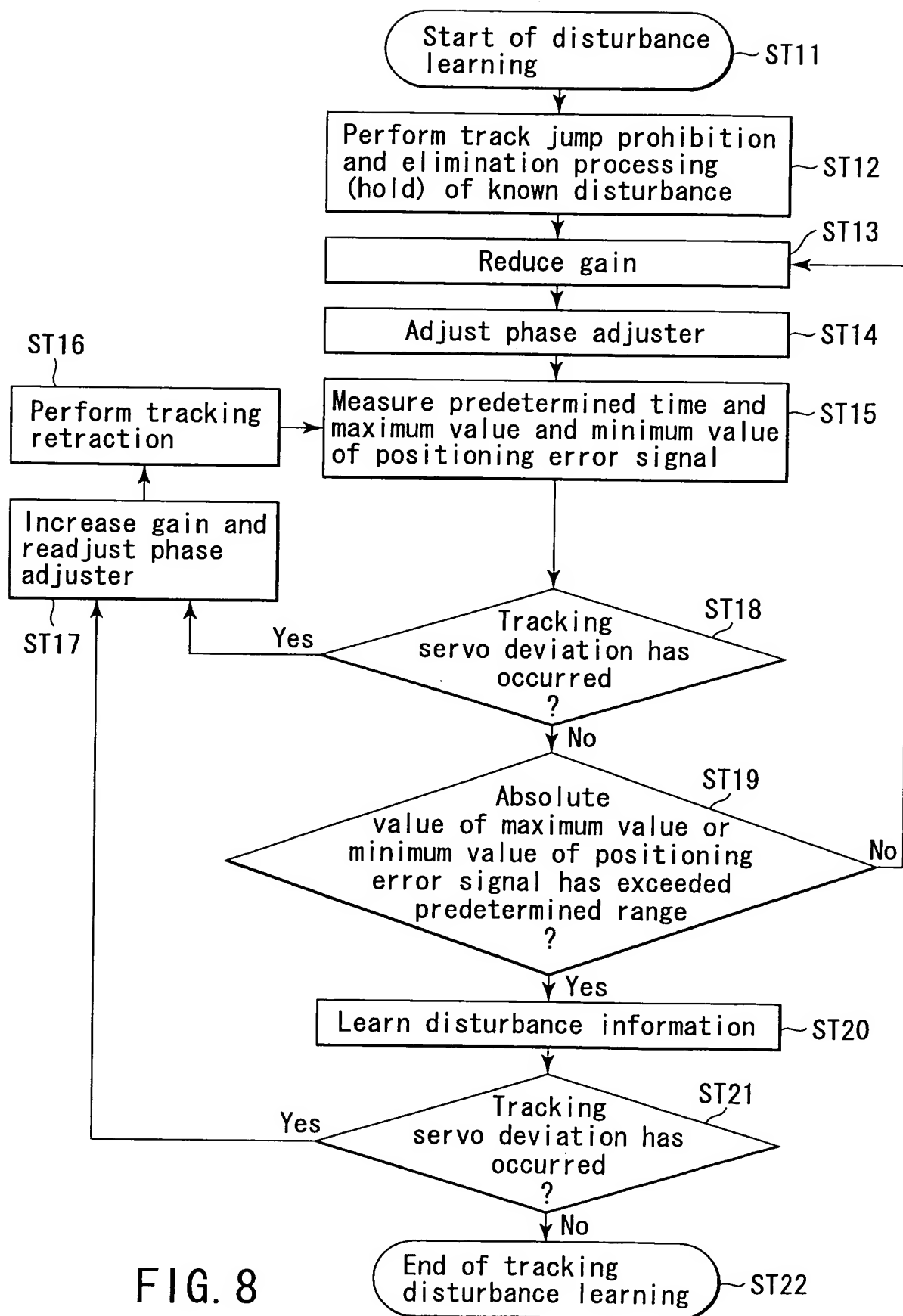
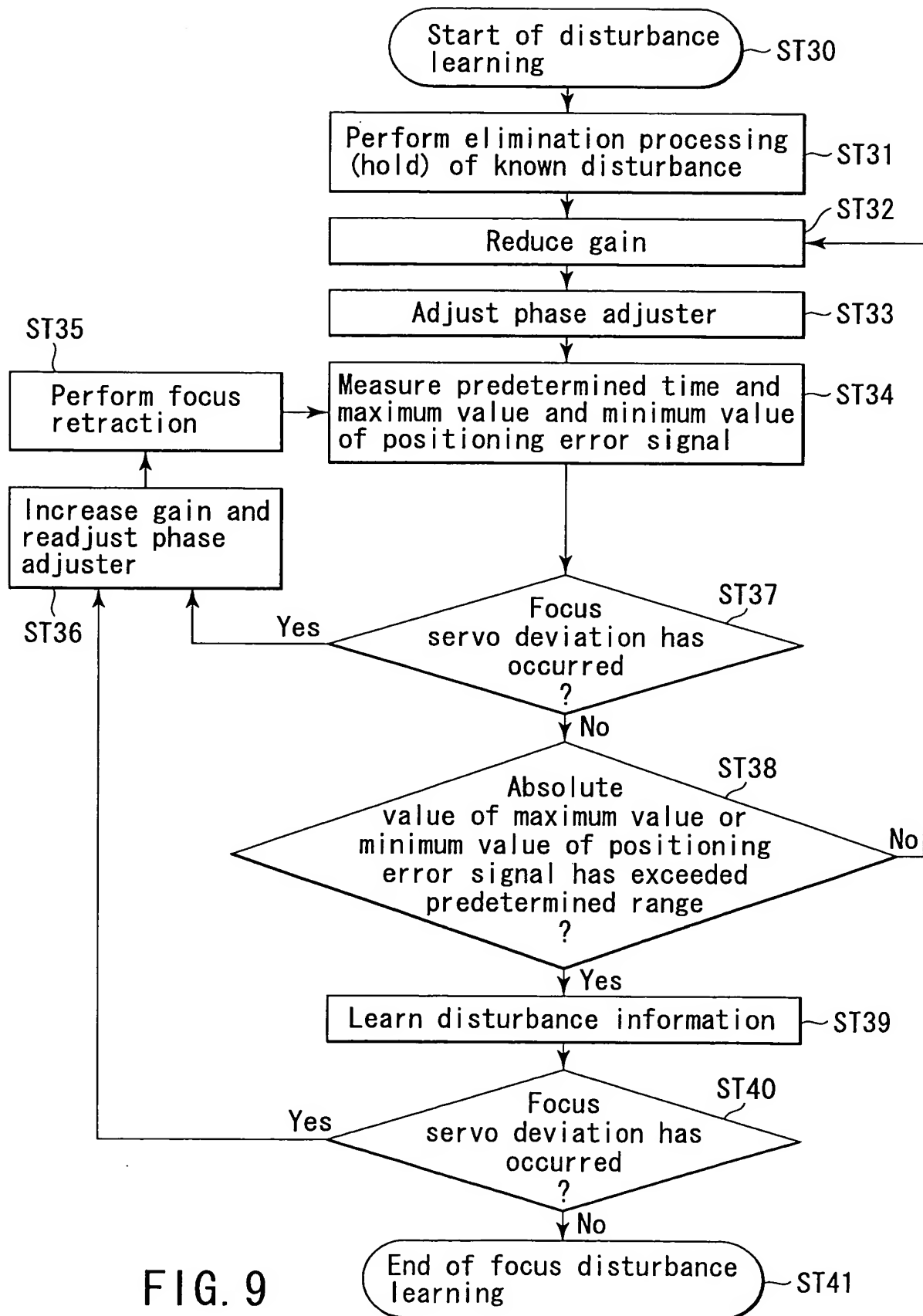


FIG. 8



Open loop transmission characteristic of control system

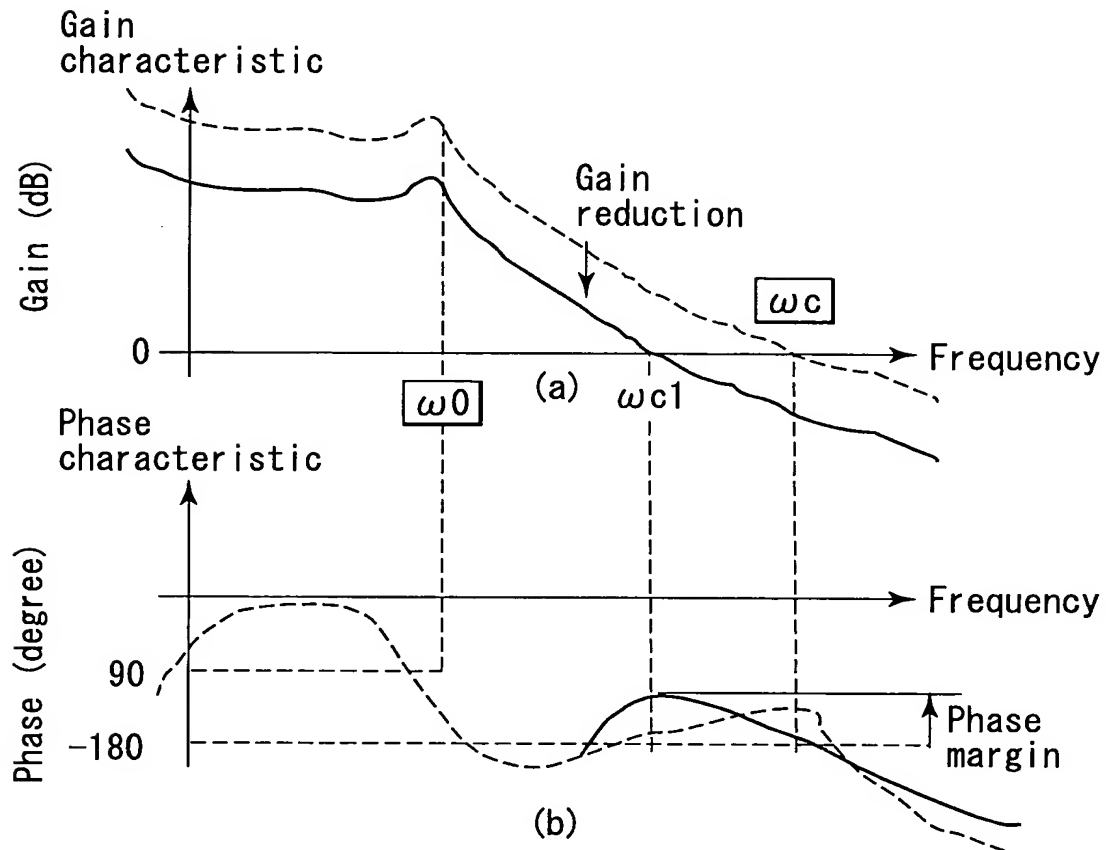


FIG. 10

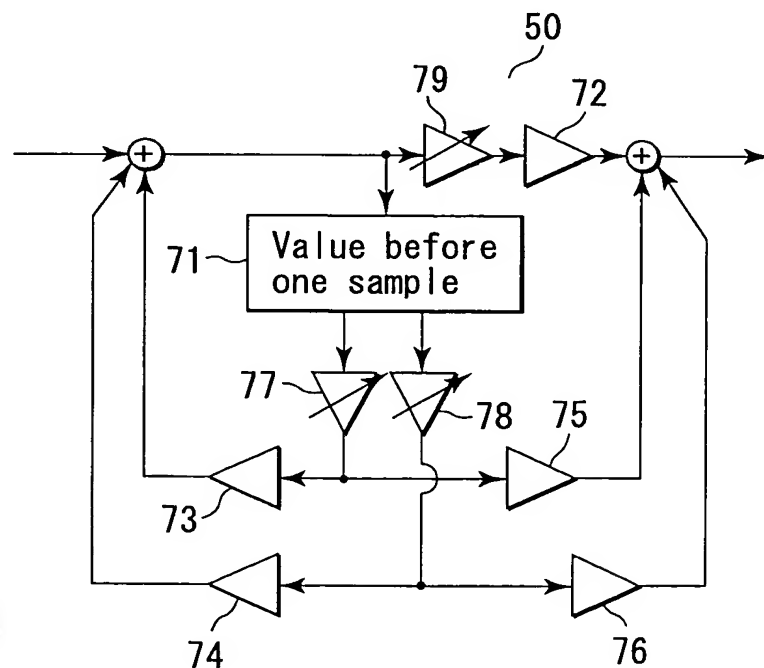
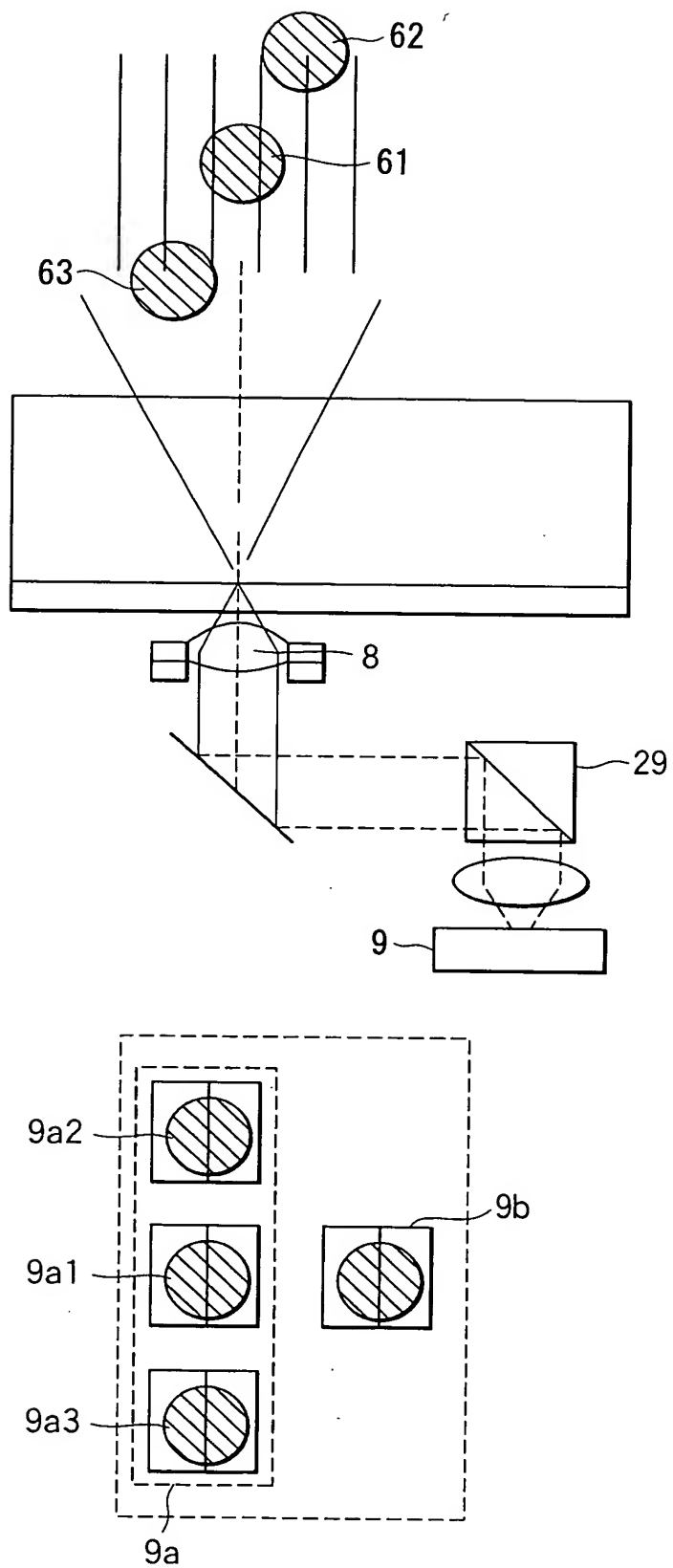
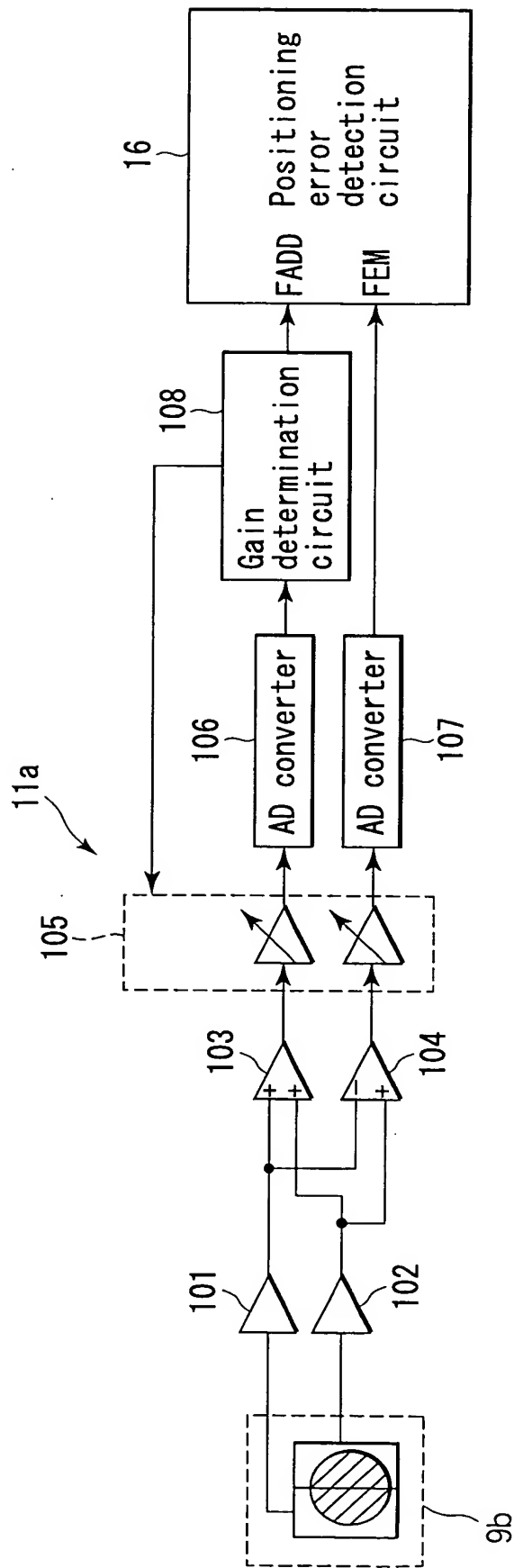


FIG. 11

FIG. 12





Normal:FES (focus positioning error signal) = FEM

FIG. 13

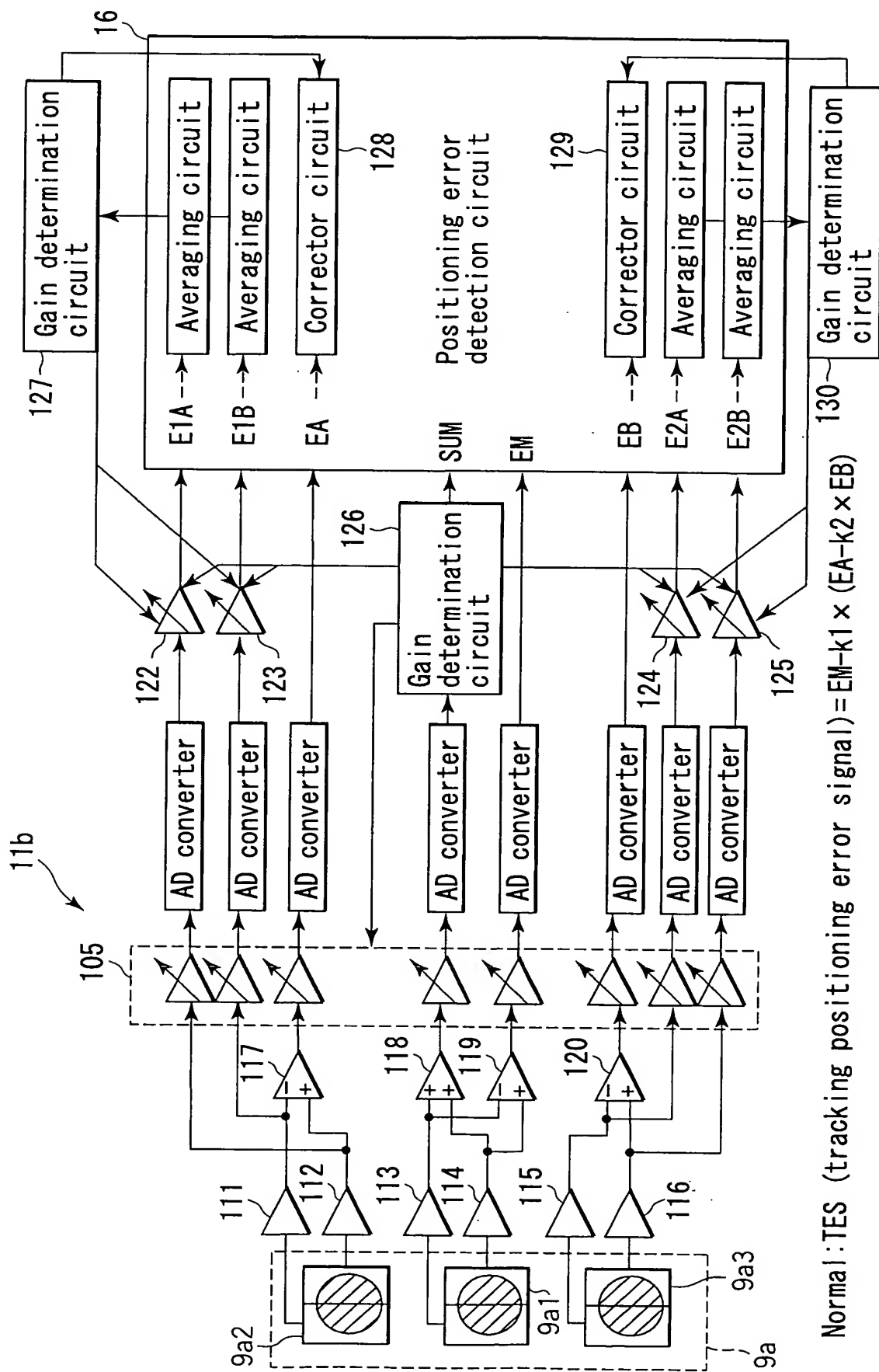


FIG. 14

In the case where gain has increased

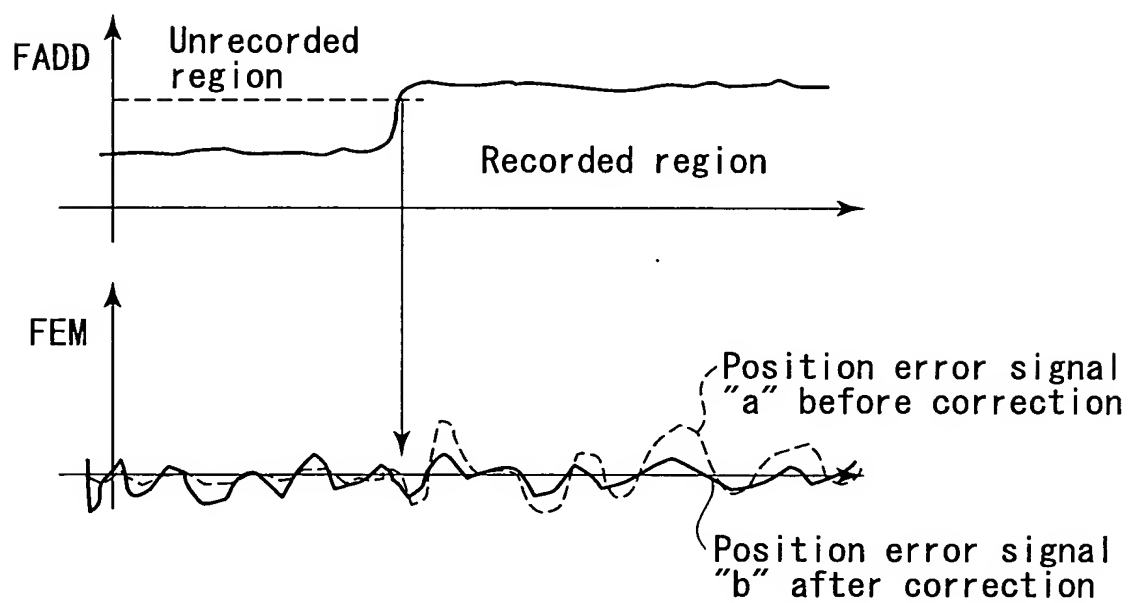
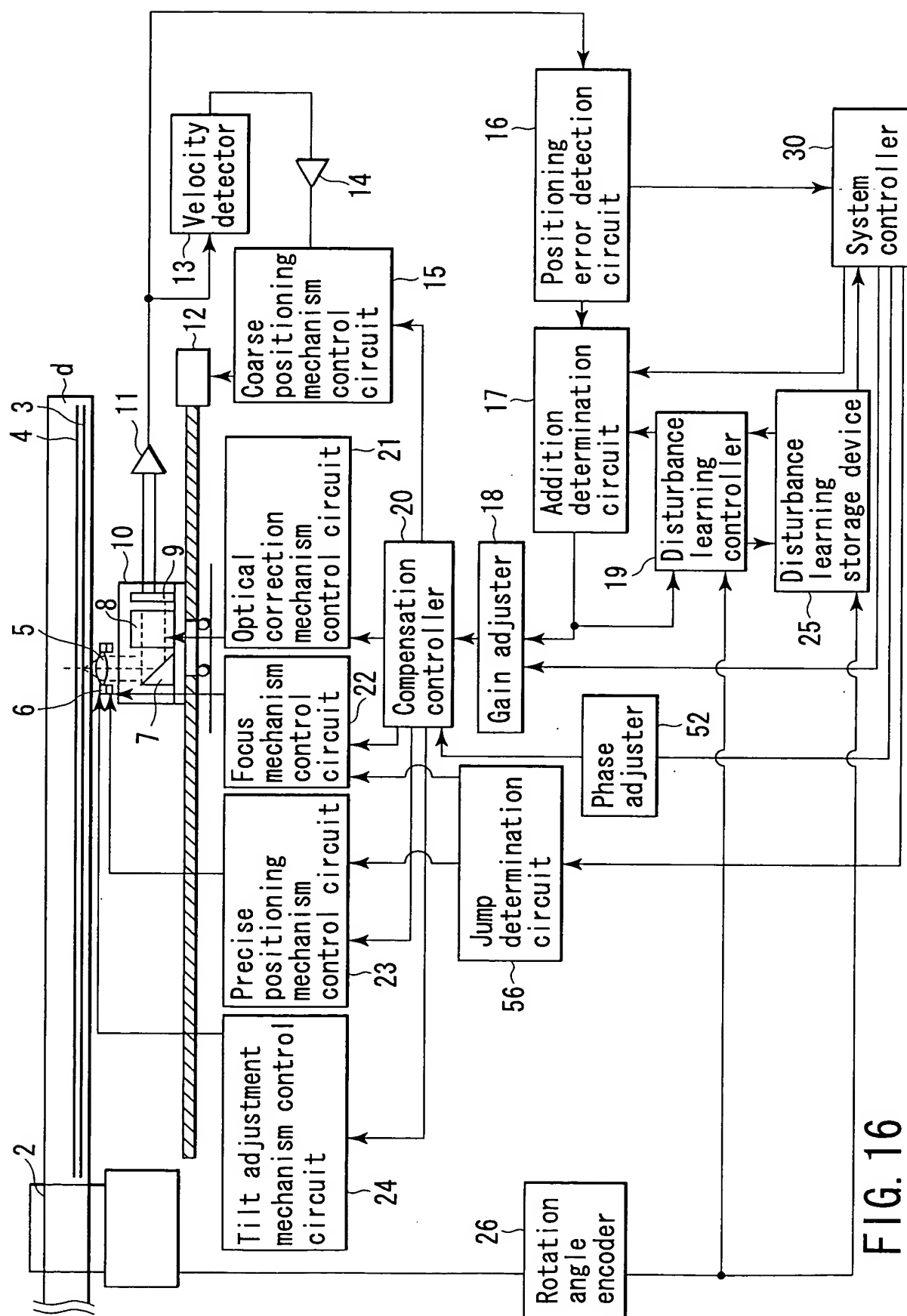


FIG. 15



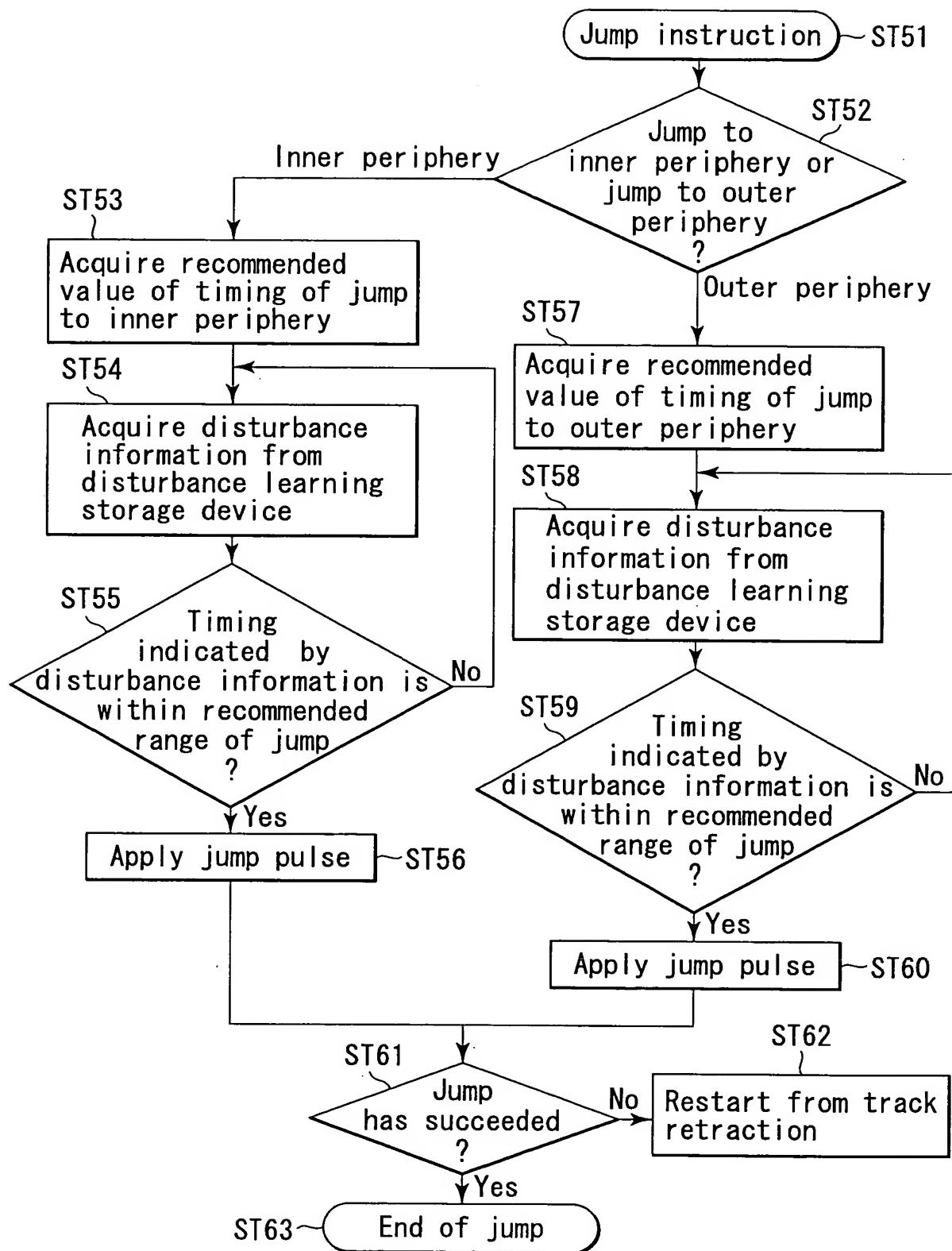


FIG. 17

Learned disturbance information
(in the case of eccentricity)

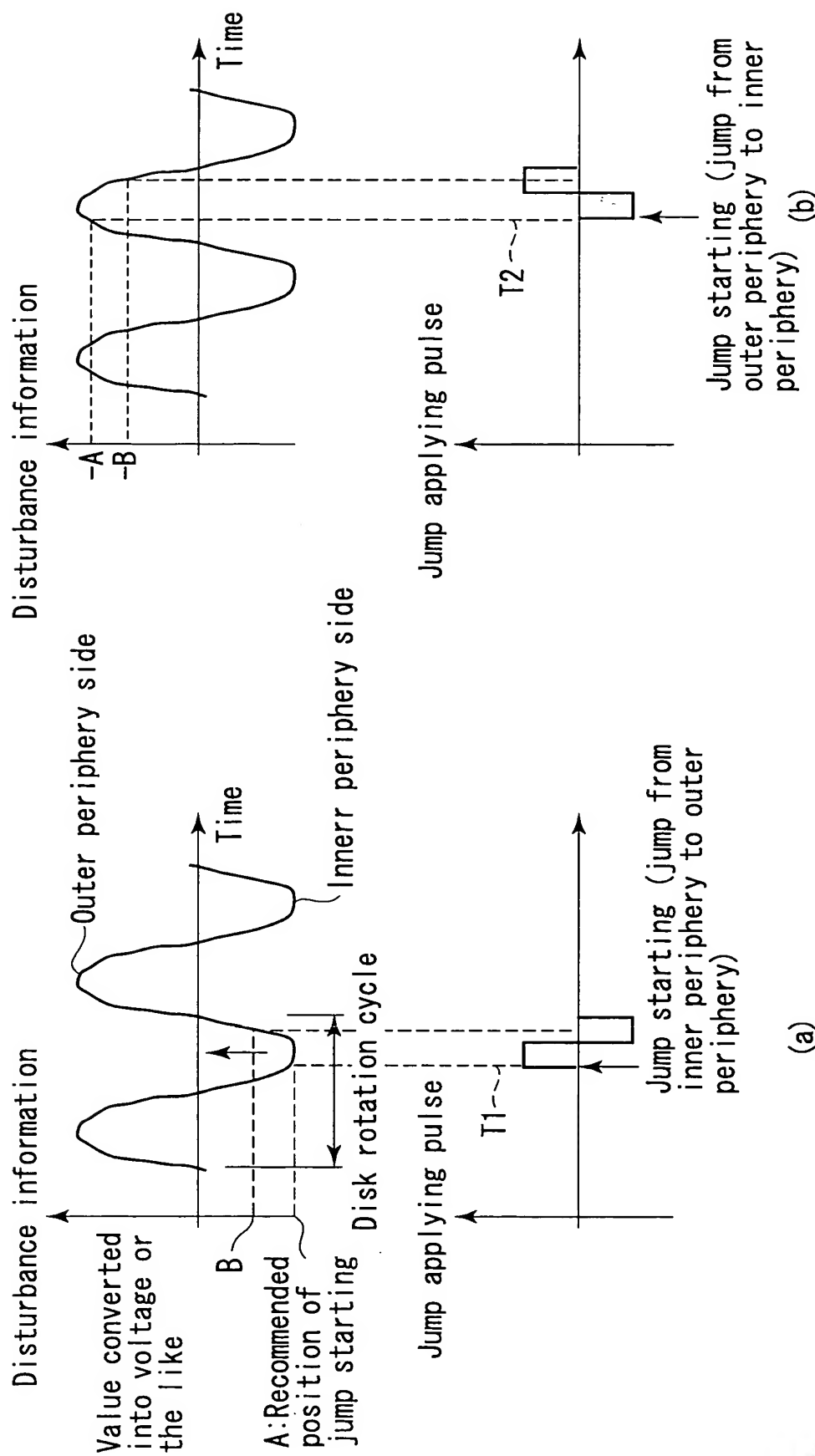


FIG. 18

Learned disturbance information
(in the case of side runout)

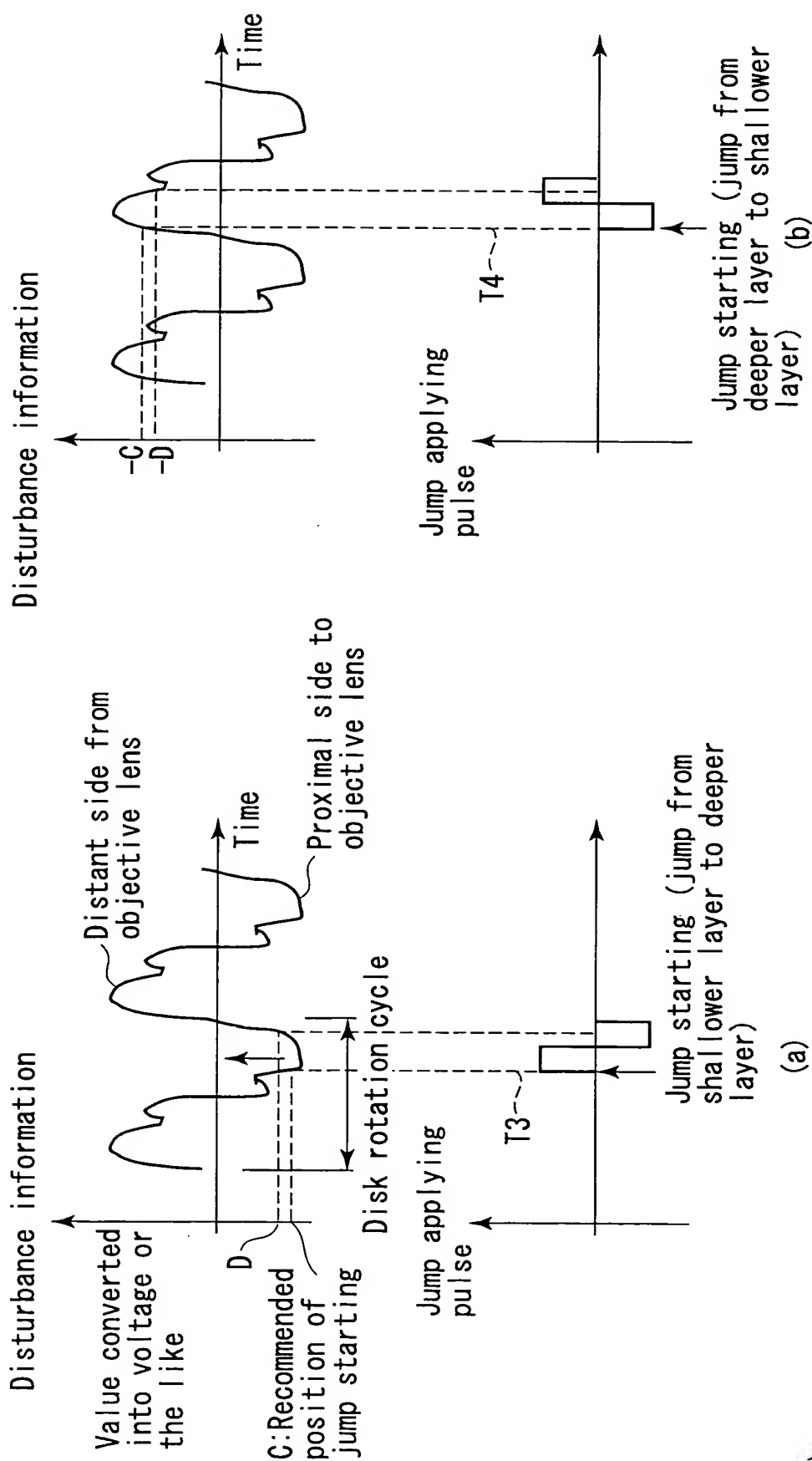


FIG. 19

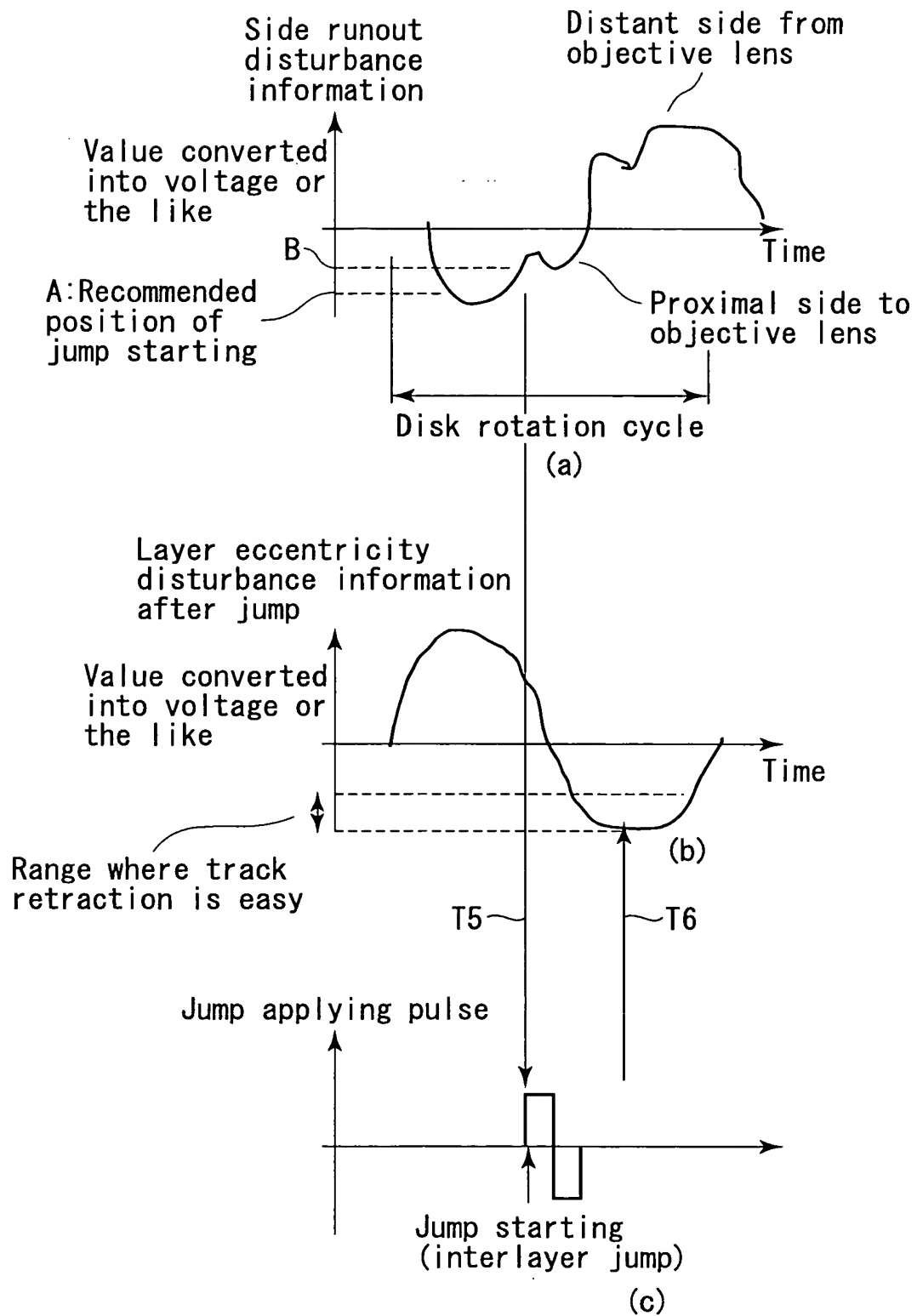


FIG. 20

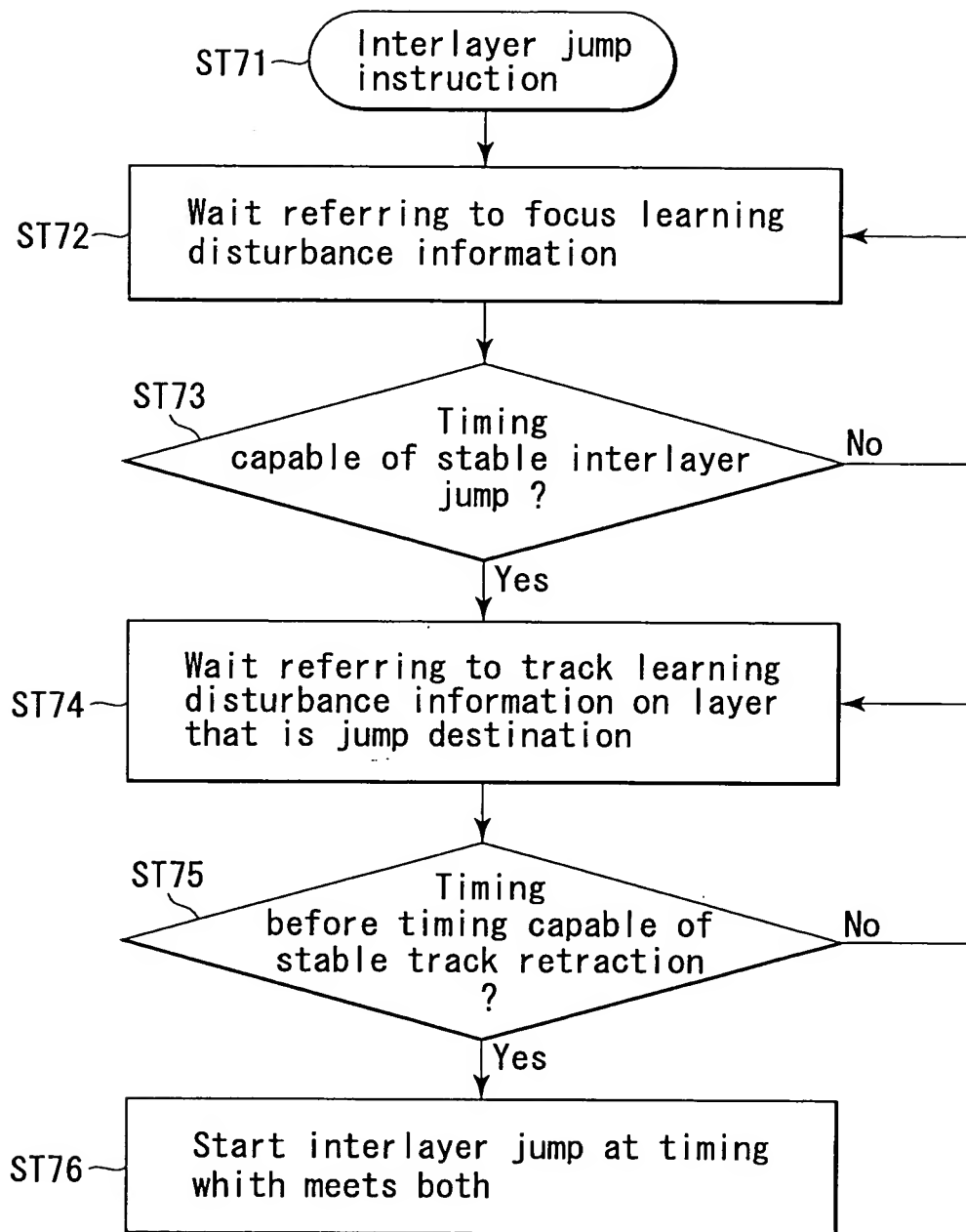


FIG. 21

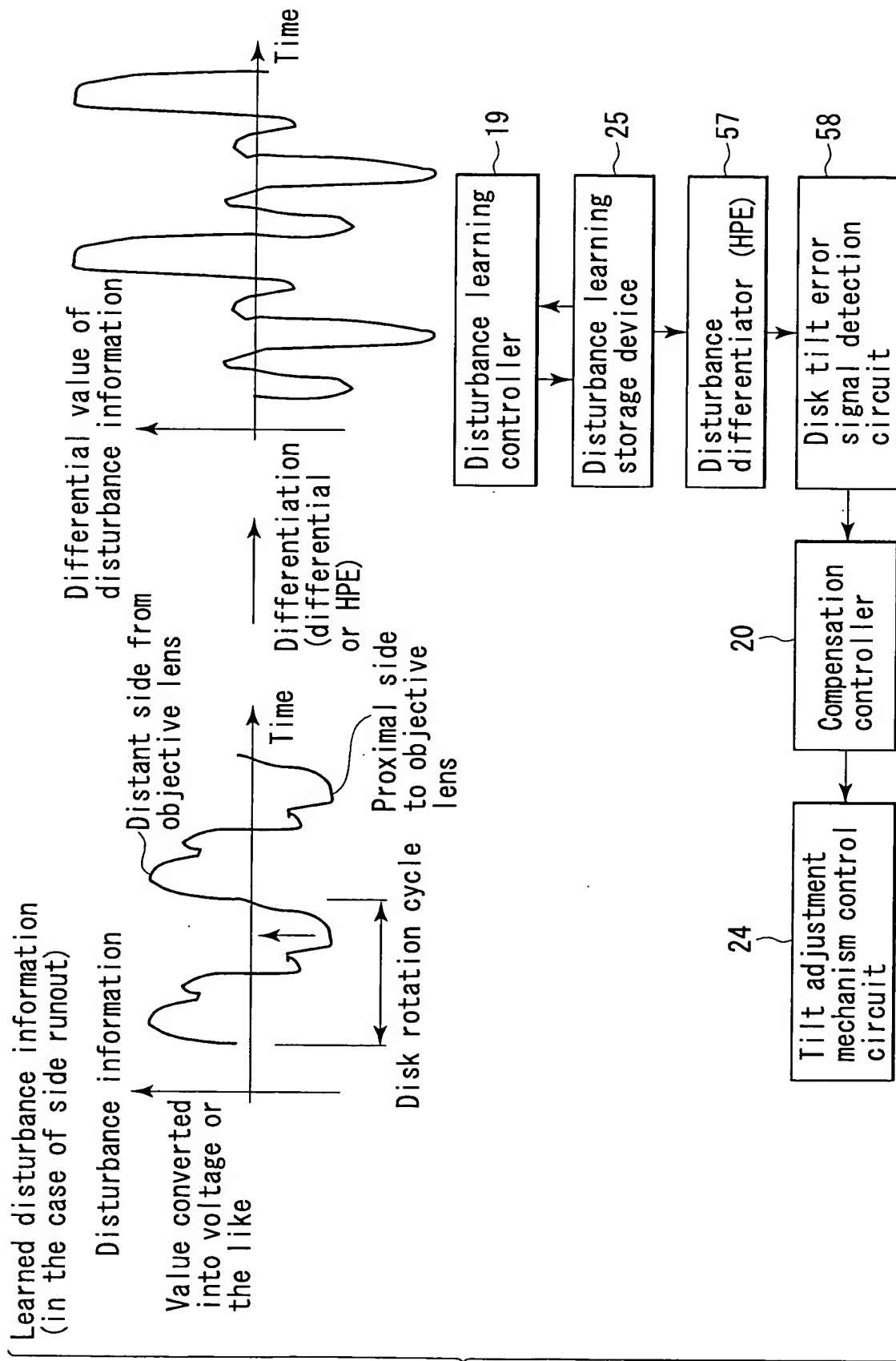


FIG. 22

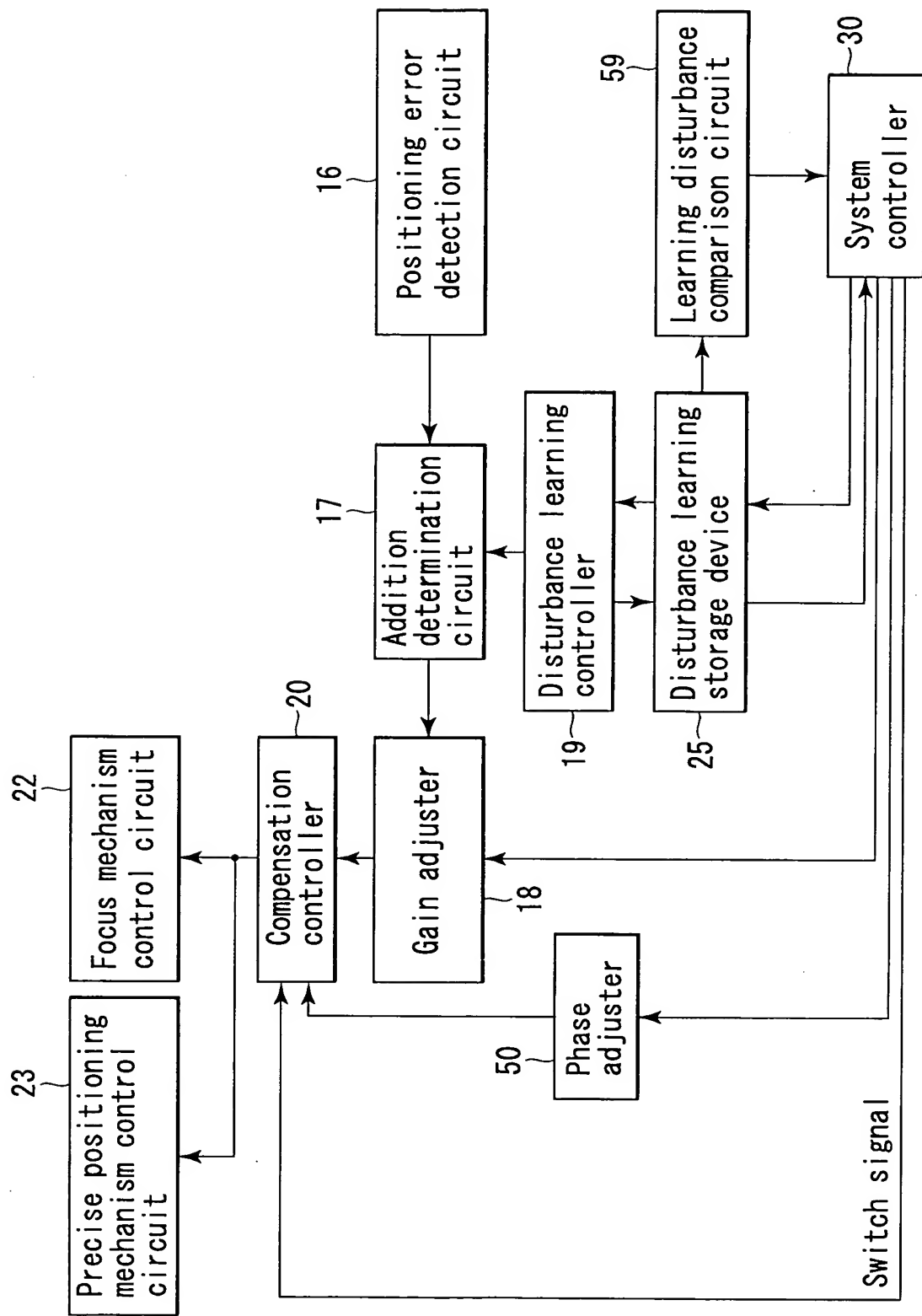


FIG. 23

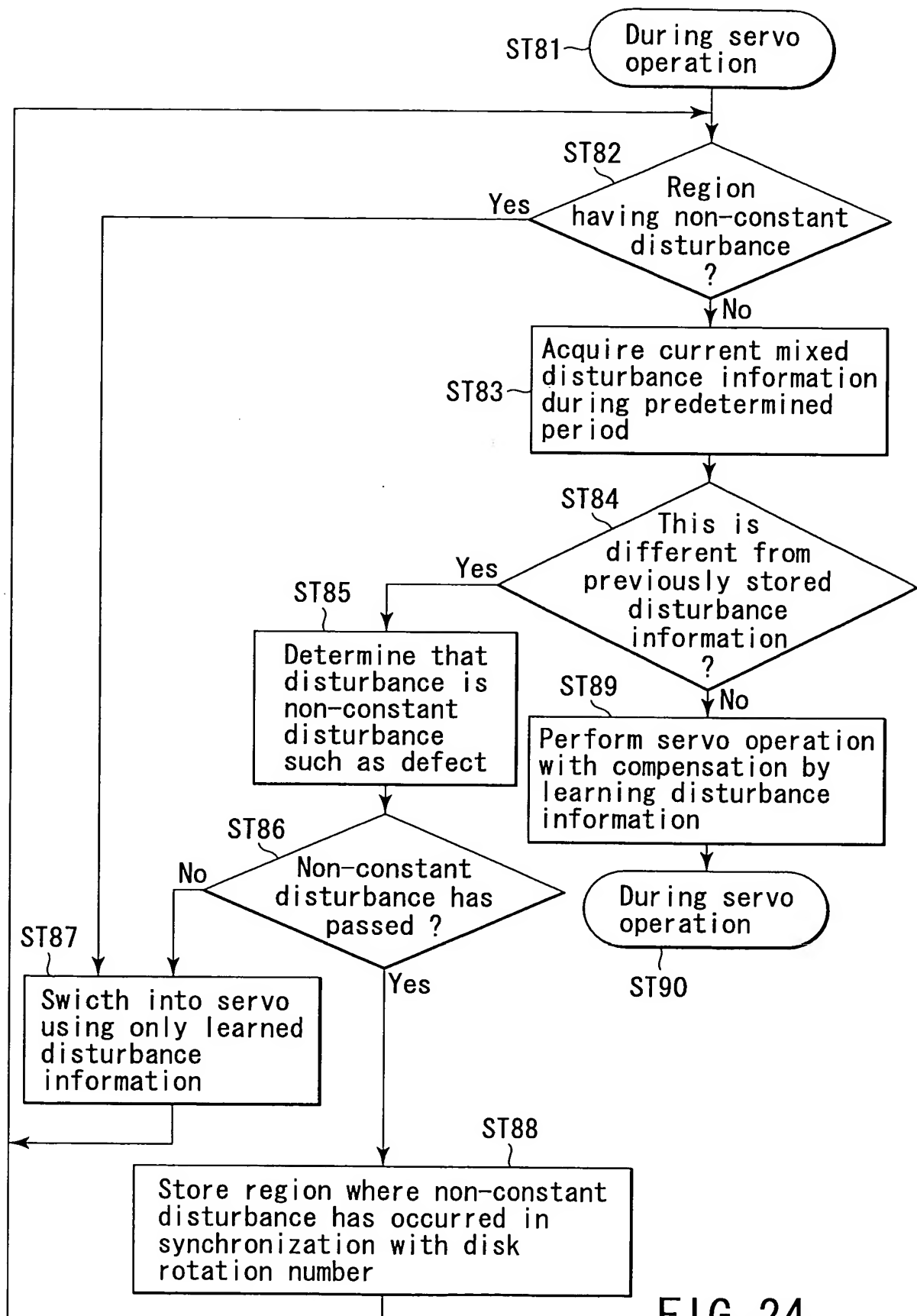


FIG. 24

Open loop transmission characteristic
of control system

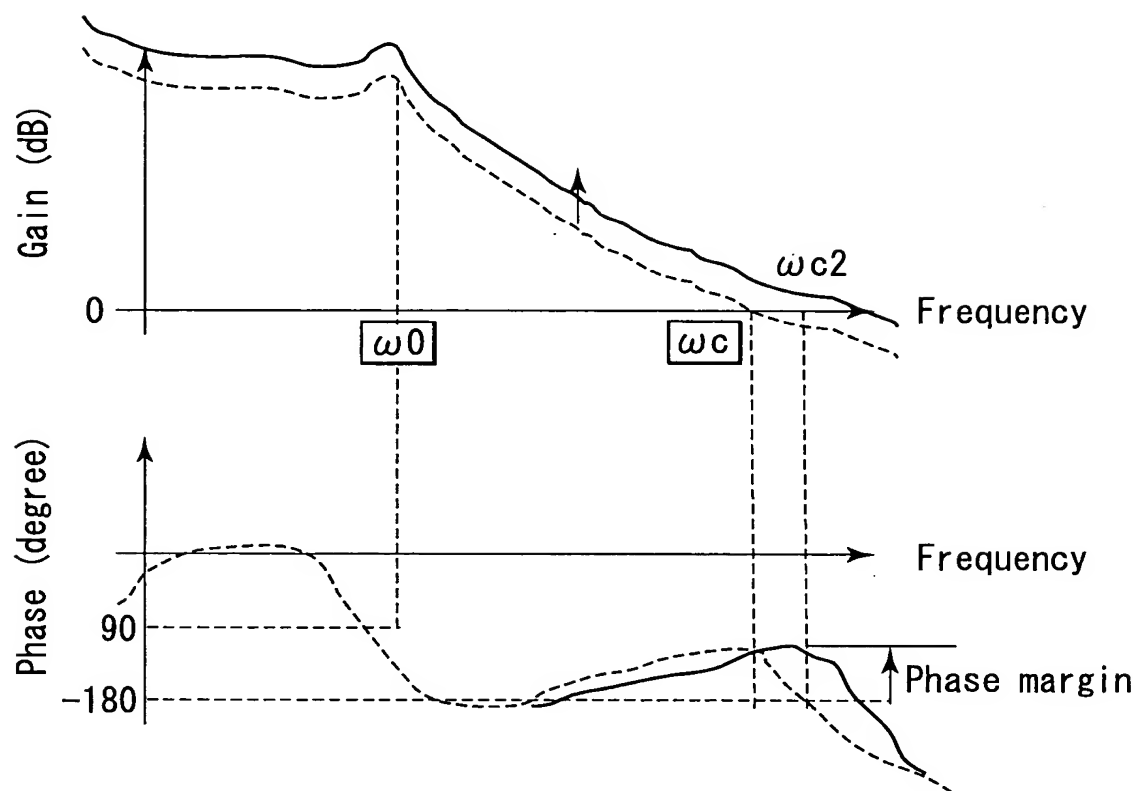


FIG. 25